Mumbai University
Question Paper

B.Sc.IT: Semester - V
Software Testing
November - 2017 | 75:25 Pattern

Time: 2 ½ Hours   **Total Marks:** 75

N.B.: **(1)** *All Question are Compulsory.*
      (2) *Make Suitable Assumptions Wherever Necessary And State The Assumptions Made.*
      (3) *Answer To The Same Question Must Be Written Together.*
      (4) *Number To The Right Indicates Marks.*
      (5) *Draw Neat Labeled Diagrams Wherever Necessary.*
      (6) *Use of Non – Programmable Calculator is allowed.*

Q.1 **ATTEMPT ANY TWO QUESTIONS: (10 MARKS)**

(A) Define Software Testing. Why is it necessary?   **(5)**
(B) Explain the Software Testing Principles.   **(5)**
(C) Compare and contrast he mindset of a tester and that of a developer.   **(5)**
(D) What is quality? Discuss the correlation between testing and quality.   **(5)**

Q.2 **ATTEMPT ANY TWO QUESTIONS: (10 MARKS)**

(A) Explain V-Model.   **(5)**
(B) Explain the different test levels.   **(5)**
(C) Describe the purpose of Confirmation Testing and Regression Testing.   **(5)**
(D) Write a short note on Maintenance Testing.   **(5)**

Q.3 **ATTEMPT ANY TWO QUESTIONS: (10 MARKS)**

(A) Explain the difference between Static and Dynamic Techniques.   **(5)**
(B) Explain the factors for successful performance of reviews.   **(5)**
(C) Describe the objective of static and list typical benefits of static analysis.   **(5)**
(D) Describe the importance and of considering Static Techniques for the assessment of software work **(5)**
products.

Q.4 **ATTEMPT ANY TWO QUESTIONS: (10 MARKS)**

(A) Explain the characteristics of Specification-Based Testing, Structure-Based Testing and Experience- **(5)**
Based Testing.
(B) Explain Boundary Value Analysis with help of an example.   **(5)**
(C) Write short note on Experienced Based Techniques.   **(5)**
(D) Define the concept and importance of Code Coverage.   **(5)**

Q.5 **ATTEMPT ANY TWO QUESTIONS: (10 MARKS)**

(A) Discuss the importance of Independent Testing.   **(5)**
(B) Discuss the IEEE-829 Standard Test Plan Template.   **(5)**
(C) Explain briefly the major types of Test Strategies that are the commonly used.   **(5)**
(D) Define the following: **(5)**
    (i) *Defect Density*
    (ii) *Failure Rate*
    (iii) *Test Control*
    (iv) *Test Coverage*
    (v) *Test Monitoring*

Q.6   ATTEMPT ANY TWO QUESTIONS: (10 MARKS)

(A)   Classify different types of tests according to the process activates.   **(5)**

(B)   Summarize the potential benefits and risks of test automation and tool support for testing.   **(5)**

(C)   State the main principles of introducing a tool into an organization.   **(5)**

(D)   Define the following: **(5)**
  (i)   *Tool*
  (ii)   *Driver*
  (iii) *Probe Effect*
  (iv)   *Data-Driven Testing*
  (v)   *Keyword-Driven Testing*

Q.7   ATTEMPT ANY THREE QUESTIONS: (15 MARKS)

(A)   Explain briefly the fundamental Test Process.   **(5)**

(B)   Define COTS, Verification, Validation, Stub and Drivers.   **(5)**

(C)   Define the following: **(5)**
  (i)   *Entry Criteria*
  (ii)   *Exit Criteria*
  (iii) *Moderator*
  (iv)   *Reviewer*
  (v)   *Scribe*

(D)   List the factors that influence the selection of the appropriate Test Design Technique. **(5)**

(E)   Write a short note on Test Monitoring.   **(5)**

(F)   State the goals of a proof of concept or Piloting Phase for Tool Evaluation.   **(5)**